

# Recovery Plan Action Status

**Plan Name:** Recovery Plan for the Threatened Marbled Murrelet (*Brachyramphus marmoratus*) in Washington, Oregon, and California

**Plan Status:** Final

**Plan Date:** 24-Sep-97

**Lead Agency:** USFWS

**Lead Office:** Washington Fish And Wildlife Office

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Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	1	2.1	Protect terrestrial habitat essential for murrelet recovery.	Ongoing Current	Prior to FY 1995		Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, California Department of Forestry and Fire Protection, U.S. Forest Service, Private landowners	Management: Habitat Maintenance and Manipulation, Management: Planning	Species Expert	FWS designated critical habitat on May 24, 1996. Several HCP's have been completed on State and private lands that provide additional habitat protection.
Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	1	2.2	Protect marine habitat essential for murrelet recovery.	Ongoing Current	Prior to FY 1995		National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service	Management: General	Species Expert	
Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	1	2.3.1	Develop and implement management plans for protected habitat areas on Federal lands.	Ongoing Current	Prior to FY 1995		U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Management: General, Management: Land Use, Management: Planning	Species Expert	LSR management plans are, and will be, developed by the BLM and FS as required in the ROD, with assistance from FWS; they will include murrelet management actions.

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Marbled murrelet (Brachyramphus marmoratus)	1	2.3.2	Develop and implement management plans for protected habitat areas on non-Federal lands.	Ongoing Current	FY 2000 - FY 2004		Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Forestry and Fire Protection, Private landowners	Management: Planning	Species Expert	HCPs are currently being worked on by state agencies and private companies / individuals in all three states that involve murrelets. These are anticipated to continue for at least the next several years.
Marbled murrelet (Brachyramphus marmoratus)	1	3.1.1.1	Maintain occupied nesting habitat.	Ongoing Current	Prior to FY 1995		Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, California Department of Fish and Game, California Department of Forestry and Fire Protection, U.S. Forest Service, Private landowners	Management: Habitat Maintenance and Manipulation	Species Expert	BLM and FS, in compliance with the ROD, will maintain all occupied murrelet nesting habitat. Non-federal agencies, companies, and individuals have begun to address occupied murrelet habitat through the HCP process and Forest Practice Rules.
Marbled murrelet (Brachyramphus marmoratus)	1	3.1.1.2	Maintain potential and suitable habitat in larger contiguous blocks while maintaining north/south and east/west distribution of nesting habitat.	Ongoing Current	Prior to FY 1995		Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, National Park Service, California Department of Forestry and Fire Protection, U.S. Forest Service	Management: Planning	Species Expert	This should be accomplished for BLM and FS, in part, by compliance with the ROD for potential and suitable habitat inside LSRs and adjacent to occupied sites in the matrix.

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Marbled murrelet (Brachyramphus marmoratus)	1	3.1.1.3	Maintain and enhance buffer habitat surrounding occupied habitat.	Ongoing Current	Prior to FY 1995		Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, National Park Service, California Department of Forestry and Fire Protection, U.S. Forest Service	Management: Land Use, Management: Planning	Species Expert	This should be accomplished for BLM and FS, in part, by compliance with the ROD for potential and suitable habitat inside LSRs and adjacent to occupied sites in the matrix.
Marbled murrelet (Brachyramphus marmoratus)	1	3.1.2.1	Reduce mortality from net fisheries.	Ongoing Current	Prior to FY 1995		Tribal governments, Washington Department of Fish and Wildlife, U.S. National Marine Fisheries Service (NOAA Fisheries), U.S. Fish and Wildlife Service	Research: General	Species Expert	Observer programs, alternate gear testing, and fishing closure areas are currently being investigated
Marbled murrelet (Brachyramphus marmoratus)	1	3.1.2.2	Minimize probability of oil spills and develop means to reduce impacts of oil spills and pollution.	Not Started			National Oceanic and Atmospheric Administration	Research: Environmental Contaminants	Contract	
Marbled murrelet (Brachyramphus marmoratus)	1	3.1.3	Minimize nest disturbances to increase reproductive success.	Ongoing Current	Prior to FY 1995		California Department of Parks and Recreation, Washington Department of Natural Resources, Oregon Department of Parks and Recreation, Oregon Department of Forestry, Washington State Parks, U.S. Bureau of Land Management, National Park Service, California Department of Forestry and Fire Protection, U.S. Forest Service	Management: General	Species Expert	

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Marbled murrelet (Brachyramphus marmoratus)	2	3.2.1.1	Decrease fragmentation by increasing the size of suitable stands.	Ongoing Current	Prior to FY 1995		Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, National Park Service, California Department of Forestry and Fire Protection, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Species Expert	This is being done by BLM and FS in LSRs through compliance with the ROD standards and guidelines.
Marbled murrelet (Brachyramphus marmoratus)	2	3.2.1.2	Protect recruitment nesting habitat to buffer and enlarge existing stands.	Ongoing Current	Prior to FY 1995		Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, National Park Service, California Department of Forestry and Fire Protection, U.S. Forest Service	Management: General	Species Expert	This is being done by BLM and FS in LSRs and around known occupied sites in the matrix through compliance with the ROD standards and guidelines
Marbled murrelet (Brachyramphus marmoratus)	2	3.2.1.3	Use silviculture to increase speed of development of new habitat.	Ongoing Current	Prior to FY 1995		Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, California Department of Forestry and Fire Protection, U.S. Forest Service	Management: General	Species Expert	Various silvicultural techniques are being proposed and utilized in both AMAs and LSRs to speed development of late-successional forests. State HCPs are also incorporating silvicultural techniques to speed development of new habitat.
Marbled murrelet (Brachyramphus marmoratus)	3	3.2.2.1	Improve and develop north/south distribution of nesting habitat.	Ongoing Current	Prior to FY 1995		Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, California Department of Forestry and Fire Protection, U.S. Forest Service	Management: General	Species Expert	These efforts are partially being accomplished through implementation of the Forest plan and development of HCPs.

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Marbled murrelet (Brachyramphus marmoratus)	3	3.2.2.2.	Improve and develop east/west distribution of nesting habitat.	Ongoing Current	FY 2000 - FY 2004		Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, California Department of Forestry and Fire Protection, U.S. Forest Service	Management: General	Species Expert	These efforts are partially being accomplished through implementation of the Forest plan and development of HCPs.
Marbled murrelet (Brachyramphus marmoratus)	1	4.1.1	Develop and refine protocols for monitoring population trends.	Complete	Prior to FY 1995	FY 2000 - FY 2004	Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Research: General	Species Expert	Through the NWFP effectiveness monitoring program, we did a small refinement of trends analysis methods.
Marbled murrelet (Brachyramphus marmoratus)	1	4.1.2	Standardize and conduct at-sea surveys for inventory and monitoring of population size and distribution.	Ongoing Current	Prior to FY 1995		Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Research: Population Surveys	Contract	Standardized at-sea surveys have been conducted yearly since 2000 in Zones 1-5 under the NWF Plan Effectiveness Monitoring program. A workshop was held in 1996 to begin survey standardization; annual surveys using a standard protocol began in 2000. At-sea surveys continue to be done in OR, WA and CA. Service costs (2011): CA- Zone 4 cost \$61,500, Zone 5 cost \$30k, plus about \$50k for program coordination; OR- Zone 3 cost \$96,479, and WA - Zones 1&2: total cost: \$149k.

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Marbled murrelet (Brachyramphus marmoratus)	1	4.1.3	Standardize and conduct at-sea surveys and nest studies to monitor breeding success.	Ongoing Not Current	FY 2000 - FY 2004		Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Forestry and Fire Protection, U.S. Forest Service	Research: Demographic Studies	Contract	(WFWO)06 new demography study on Olympic Peninsula. 2010 Study funded (\$15k) by Arcata FO to assess breeding success in 2010 (adult/juvenile ratios). Arcata FWO funded 2011 study to assess productivity (adult/juvenile ratios) in area off Redwood National/State Parks, and to test at-sea productivity methods (funding: \$30k, oil spill NRDA funds).
Marbled murrelet (Brachyramphus marmoratus)	2	4.1.4	Develop a definition of suitable murrelet habitat for each Conservation Zone.	Ongoing Current	Prior to FY 1995		Unknown	Research: General	Species Expert	
Marbled murrelet (Brachyramphus marmoratus)	2	4.1.5	Determine and map breeding habitat, including recruitment and replacement habitat.	Ongoing Current	FY 2000 - FY 2004		Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, California Department of Fish and Game, California Department of Forestry and Fire Protection, U.S. Forest Service	Research: Habitat Status	Species Expert	As part of duties under NWFP monitoring team, FWS personnel involved in nesting habitat monitoring/modeling for the NWFP area (Zones 1-5), for 1994 through 2007; results finalized in 2011. Expenditures tied specifically to salary costs include FWS (about \$43k) and USFS (\$25k).

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Marbled murrelet (Brachyramphus marmoratus)	2	4.1.6	Survey potential breeding habitat to identify potential nesting areas.	Ongoing Current	Prior to FY 1995		Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, California Department of Fish and Game, California Department of Forestry and Fire Protection, U.S. Forest Service, Private landowners	Research: General	Species Expert	BLM and FS are surveying suitable habitat in the matrix as part of compliance with the ROD. Various State agencies and private individuals and companies are also conducting murrelet surveys. Large-scale radar surveys conducted in California (Six Rivers NF) in 2010-11, using Recovery Act funds.
Marbled murrelet (Brachyramphus marmoratus)	2	4.1.7	Evaluate terrestrial survey protocol.	Complete	FY 2000 - FY 2004	FY 2000 - FY 2004	Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Forestry and Fire Protection, U.S. Forest Service	Research: General	Species Expert	
Marbled murrelet (Brachyramphus marmoratus)	2	4.2.1	Utilize at-sea surveys conducted in 4.1.2 to refine estimates of current population size and distribution.	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service	Research: General	Species Expert	Estimates refined every 2-3 years over a 10-year period
Marbled murrelet (Brachyramphus marmoratus)	2	4.2.2	Develop survivorship estimates for the marbled murrelet.	Ongoing Not Current	FY 2000 - FY 2004		U.S. Fish and Wildlife Service	Research: General	Species Expert	Survivorship estimates refined every 2-3 years over a 10-year period.

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Marbled murrelet (Brachyramphus marmoratus)	2	4.2.3	Refine estimates of breeding success from adult:juvenile ratios.	Not Started			U.S. Fish and Wildlife Service	Research: Demographic Studies	Species Expert	Estimates of breeding success refined every 2-3 years over a 10-year period.
Marbled murrelet (Brachyramphus marmoratus)	3	4.3	Determine the genetic structure of the murrelet populations.	Complete	FY 2000 - FY 2004	FY 2007	To be determined	Research: Genetics	Contract	
Marbled murrelet (Brachyramphus marmoratus)	1	4.4.1.1	Improve understanding of factors affecting nesting success.	Ongoing Current	FY 2006		Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Forestry and Fire Protection, U.S. Forest Service	Research: Demographic Studies	Species Expert	(WWO)06 new demography study on Olympic Peninsula. Thru section 6 funds of \$137.4k, California Fish and Game funded a corvid nest predator study by Humboldt State Univ in Redwood Park. In 2011, through oil spill/NRDA funding, Humboldt State Univ. initiated study using taste aversion as a way to reduce jay predation on murrelet eggs in Redwood N/S Park. Report available for Project funded in 2008 fo \$21k -"A Predator Management Strategy to address corvid impacts on Productivity of Snowy Plovers and Murrelets in coastal Northern California".

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Marbled murrelet (Brachyramphus marmoratus)	1	4.4.1.2	Improve understanding of nesting habitat limitations.	Ongoing Current	FY 2000 - FY 2004		Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Forestry and Fire Protection, U.S. Forest Service	Research: Habitat Requirements	Species Expert	
Marbled murrelet (Brachyramphus marmoratus)	3	4.4.1.3	Evaluate the effects of disturbance of forest management activities on nesting murrelets.	Ongoing Current	FY 2000 - FY 2004		Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Forestry and Fire Protection, U.S. Forest Service	Research: Management Techniques	Species Expert	2001-2003 study by Humboldt State Univ. studied effects of disturbance of certain forest/recreational activities on nesting murrelets in Redwood National/State Park (many funding sources). Final report in 2006.
Marbled murrelet (Brachyramphus marmoratus)	2	4.4.2.1	Determine the relative importance of human activities on adult/subadult mortality.	Ongoing Not Current	FY 2000 - FY 2004		Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, United States Coast Guard	Research: General	Species Expert	

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Marbled murrelet (Brachyramphus marmoratus)	3	4.4.2.2	Determine how natural or human-enhanced variability in, or depression of, food resources affect survivorship or productivity	Not Started			U.S. Geological Survey, Biological Resources Division	Research: General	Species Expert	
Marbled murrelet (Brachyramphus marmoratus)	3	4.5.1	Conduct studies on food habits of marbled murrelets.	Not Started			U.S. Geological Survey, Biological Resources Division	Research: General	Species Expert	
Marbled murrelet (Brachyramphus marmoratus)	3	4.5.2	Conduct studies on population immigration/emigration and colonization of nesting areas by marbled murrelets.	Ongoing Current	FY 2007		U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Research: Demographic Studies	Species Expert	Zach Peery in CA, with Palco funds to characterize source-sink dynamics with genetic parentage assignments.
Marbled murrelet (Brachyramphus marmoratus)	3	4.5.3	Conduct studies on marine habitat use by marbled murrelets.	Ongoing Current	FY 2000 - FY 2004		U.S. Geological Survey, Biological Resources Division	Research: Habitat Requirements	Species Expert	
Marbled murrelet (Brachyramphus marmoratus)	3	5.0	Establish a Regional West Coast Data Center for the Marbled Murrelet.	Not Started			Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Oregon Department of Forestry, U.S. Bureau of Land Management, U.S. Geological Survey, Biological Resources Division, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Forestry and Fire Protection, U.S. Forest Service	Management: Other	Species Expert	Agency contributions would depend on agency needs and management direction